

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. 2000-NE-32-AD; Amendment 39-12832; AD 2002-15-04]

RIN 2120-AA64

Airworthiness Directives; Honeywell International, Inc., (formerly AlliedSignal, Inc. and Textron Lycoming) T5313B, T5317 Series, and T53 Series Turboshift Engines

AGENCY: Federal Aviation Administration, DOT.

ACTION: Final rule.

SUMMARY: This amendment adopts a new airworthiness directive (AD), that is applicable to Honeywell International, Inc., (formerly AlliedSignal, Inc. and Textron Lycoming) T5313B, T5317 series and former military T53 series, turboshaft engines having certain serial number centrifugal compressor impellers, installed. This amendment requires for T53 series engines, a revised operating cycle count (prorate) for those compressor impellers if installed, and initial and repetitive inspections, with eventual compressor impeller replacement. In addition, this amendment requires the marking of those compressor impellers. This amendment is prompted by a report from the supplier that four centrifugal compressor impellers may have been inadvertently misidentified. The actions specified by this AD are intended to prevent premature failure of the impellers from being operated beyond their design service life, which could result in an uncontained engine failure, in-flight shutdown, or damage to the helicopter.

DATES: Effective September 10, 2002. The incorporation by reference of certain publications listed in the regulations is approved by the Director of the Federal Register as of September 10, 2002.

ADDRESSES: The service information referenced in this AD may be obtained from Honeywell International, Inc. (formerly AlliedSignal, Inc. and Textron Lycoming), Attn: Data Distribution, M/S 64-3/2101-201, P.O. Box 29003, Phoenix, AZ 85038-9003, telephone: (602) 365-2493; fax: (602) 365-5577. This information may be examined, by appointment, at the Federal Aviation Administration (FAA), New England Region, Office of the Regional Counsel, 12 New England Executive Park, Burlington, MA; or at the Office of the Federal Register, 800 North Capitol Street, NW, suite 700, Washington, DC.

FOR FURTHER INFORMATION CONTACT: Robert Baitoo, Aerospace Engineer, Los Angeles Aircraft Certification Office (ACO), FAA, Transport Airplane Directorate, 3960 Paramount Blvd., Lakewood, CA 90712-4137; telephone: (562) 627-5245; fax: (562) 627-5210.

SUPPLEMENTARY INFORMATION: A proposal to amend part 39 of the Federal Aviation Regulations (14 CFR part 39) to include an AD that is applicable to Honeywell International, Inc., (formerly AlliedSignal, Inc. and Textron Lycoming) T5313B, T5317 series and former military T53 series, turboshaft engines having certain serial number centrifugal compressor impellers, installed was published in the Federal Register on June 12, 2001 (66 FR 31566). That action proposed to require for T53 series engines, a revised operating cycle count (prorate) for those compressor impellers if installed, and initial and repetitive inspections, with eventual compressor impeller replacement. In addition, that action proposed to require the marking of those compressor impellers in accordance with Honeywell International, Inc. Service Bulletins (SB's) T5313B/17-0020, Revision 5, dated March 31, 2001; T53-L-13B-0020, Revision 2, dated April 25, 2001; T53-L-13B/D-0020, Revision 1, dated April 25, 2001; and T53-L-703-0020, Revision 1, dated April 25, 2001. Also, Textron Lycoming SB T5313B/17-0052, Revision 2, dated December 16, 1993; AlliedSignal, Inc. SB's T53-L-13B-0108, Revision 1, dated November 22, 1999; T53-L-13B/D-0108, Revision 1, dated November 22, 1999; and T53-L-703-0108, Revision 1, dated November 22, 1999.

Since the publication of the proposed amendment, two Honeywell International, Inc. service bulletins have been revised. Therefore, this AD requires compliance in accordance with Honeywell International, Inc. SB's T5313B/17-0020, Revision 6, dated May 2, 2001 and T53-L-13B-0020, Revision 3, dated October 25, 2001.

Comments

Interested persons have been afforded an opportunity to participate in the making of this amendment. No comments were received on the proposal or the FAA's determination of the cost to the public. The FAA has determined that air safety and the public interest require the adoption of the rule as proposed.

Economic Analysis

The FAA estimates there are approximately four Honeywell International, Inc., (formerly AlliedSignal, Inc., and Textron Lycoming) T5313B series, T5317 series, and former military T53 series turboshaft engines having the misidentified centrifugal compressor impellers, that are installed on helicopters of U.S. registry. The FAA also estimates that it would take approximately eight work hours per engine to perform the inspection, and that the average labor rate is \$60 per work hour. No additional work hour cost would be incurred if the centrifugal compressor impeller is replaced during normal engine disassembly. The prorated cost of a replacement compressor impeller is estimated to be \$20,000. Based on these figures, the total labor cost of the AD to U.S. operators is estimated to be \$21,920.

Regulatory Analysis

This final rule does not have federalism implications, as defined in Executive Order 13132, because it would not have a substantial direct effect on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government. Accordingly, the FAA has not consulted with state authorities prior to publication of this final rule.

For the reasons discussed above, I certify that this action (1) is not a "significant regulatory action" under Executive Order 12866; (2) is not a "significant rule" under the DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979); and (3) will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act. A final evaluation has been prepared for this action and it is contained in the Rules Docket. A copy of it may be obtained by contacting the Rules Docket at the location provided under the caption ADDRESSES.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

Adoption of the Amendment

Accordingly, pursuant to the authority delegated to me by the Administrator, the Federal Aviation Administration amends part 39 of the Federal Aviation Regulations (14 CFR part 39) as follows:

PART 39—AIRWORTHINESS DIRECTIVES

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

§ 39.13 [Amended]

2. Section 39.13 is amended by adding a new airworthiness directive to read as follows:

AIRWORTHINESS DIRECTIVE



Aircraft Certification Service
Washington, DC

U.S. Department
of Transportation
**Federal Aviation
Administration**

We post ADs on the internet at "www.airweb.faa.gov/rgl"

The following Airworthiness Directive issued by the Federal Aviation Administration in accordance with the provisions of Title 14 of the Code of Federal Regulations (14 CFR) part 39, applies to an aircraft model of which our records indicate you may be the registered owner. Airworthiness Directives affect aviation safety and are regulations which require immediate attention. You are cautioned that no person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of the Airworthiness Directive (reference 14 CFR part 39, subpart 39.3).

2002-15-04 Honeywell International, Inc., (formerly AlliedSignal, Inc. and Textron Lycoming) T5313B, T5317 Series, and T53 Series Turboshift Engines: Amendment 39-12832. Docket No. 2000-NE-32-AD.

Applicability: This airworthiness directive (AD) is applicable to Honeywell International, Inc., (formerly AlliedSignal, Inc., and Textron Lycoming) T5313B series, T5317 series, and former military T53 series, turboshift engines with centrifugal compressor impellers having serial numbers (SN's) 83317, 83327, 83328, or 83330 installed. These engines are installed on, but not limited to Bell Helicopter Textron 204, 205, and 209 series, and Kaman K-1200 series helicopters, and the following surplus military helicopters that have been certified in accordance with §§21.25 or 21.27 of the Federal Aviation Regulations (14 CFR 21.25 or 21.27): Bell Helicopter Textron manufactured AH-1, UH-1, and SW-204/205 (UH-1) series.

Note 1: This AD applies to each engine identified in the preceding applicability provision, regardless of whether it has been modified, altered, or repaired in the area subject to the requirements of this AD. For engines that have been modified, altered, or repaired so that the performance of the requirements of this AD is affected, the owner/operator must request approval for an alternative method of compliance in accordance with paragraph (i) of this AD. The request should include an assessment of the effect of the modification, alteration, or repair on the unsafe condition addressed by this AD; and, if the unsafe condition has not been eliminated, the request should include specific proposed actions to address it.

Compliance: Compliance with this AD is required as indicated, unless already done.

To prevent premature failure of the impellers from being operated beyond their design service life, which could result in an uncontained engine failure, in-flight shutdown, or damage to the helicopter, do the following:

Life Limits

(a) When conducting a revised centrifugal compressor impeller operating cycle count on impellers having SN's 83317, 83327, 83328, or 83330, consider these impellers to be centrifugal compressor impeller P/N 1-100-078-07. The life limit must use the value as if these centrifugal compressor impellers are P/N 1-100-078-07.

Revised Operating Cycle Count (Prorate) for T53 Engines

(b) For T5313B series, T5317 series, and former military T53 series engines, within 25 operating cycles or 7 calendar days, whichever occurs first, after the effective date of this AD, perform the following:

(1) Conduct a revised centrifugal compressor impeller operating cycle count (prorate) in accordance with paragraph 2.E. of the Honeywell International, Inc. Service Bulletin (SB) that applies to the engine, from the following list:

- (i) For T53-L-13B series engines, use SB T53-L-13B-0020, Revision 3, dated October 25, 2001.
- (ii) For T53-L-13B/D engines, use SB T53-L-13B/D-0020, Revision 1, dated April 25, 2001.
- (iii) For T53-L-703 engines, use SB T53-L-703-0020, Revision 1, dated April 25, 2001.
- (iv) For T5313B series and T5317 series engines, use SB T531B/17-0020, Revision 6, dated May 2, 2001.

(2) Remove from service centrifugal compressor impellers with SN's 83317, 83327, 83328, or 83330, that exceed their new life limit as calculated in accordance with paragraph (b)(1) of this AD.

Impeller Marking

(c) At the next access to the centrifugal compressor impeller, mark the impeller by vibropeening a line over the -14 suffix, and vibropeen a -07 suffix immediately following the -14. Use the following vibropeening parameters:

- (1) Vibropeen to a depth of 0.001-0.006 inch.
- (2) Do not vibropeen within 0.30 inch of corners, fillets, or sharp edges.

Definition

(d) For the purpose of this AD, access to the centrifugal compressor impeller is defined as whenever the turboshaft engine is disassembled sufficiently as specified by the applicable maintenance manual, to expose the compressor impeller for marking in accordance with paragraph (c) of this AD.

Inspection of Impellers on T5313B and T5317 Series Engines

(e) For T5313B and T5317 series engines, inspect centrifugal compressor impellers having SN's 83317, 83327, 83328, or 83330, for cracks in accordance with the Accomplishment Instructions of Textron Lycoming SB No. T5313B/17-0052, Revision 2, dated December 16, 1993, as follows:

(1) For those centrifugal compressor impellers installed on AlliedSignal, Inc. Model T5313B engines, accomplish the following:

(i) For centrifugal compressor impellers with equal to or greater than 4,600 cycles in service (CIS) on the effective date of this AD, initially inspect within 200 CIS after the effective date of this AD.

(ii) For those centrifugal compressor impellers with less than 4,600 CIS on the effective date of this AD, initially inspect no later than 4,800 CIS.

(2) For those centrifugal compressor impellers installed on AlliedSignal, Inc. T5317 series engines, accomplish the following:

(i) For those centrifugal compressor impellers with equal to or greater than 3,500 CIS on the effective date of this AD, initially inspect within 200 CIS after the effective date of this AD.

(ii) For those centrifugal compressor impellers with less than 3,500 CIS on the effective date of this AD, initially inspect no later than 3,700 CIS.

(3) Centrifugal compressor impellers found cracked in accordance with the Accomplishment Instructions of Textron Lycoming SB No. T5313B/17-0052, Revision 2, dated December 16, 1993, must be removed from service and replaced with a serviceable part that does not exceed the life limit.

(4) If no cracks are detected, perform repetitive inspections of the centrifugal compressor impellers at intervals not to exceed 500 CIS since last inspection in accordance with the Accomplishment Instructions of Textron Lycoming SB No. T5313B/17-0052, Revision 2, dated December 16, 1993.

Inspection of Impellers on T53-L-13B Series Engines

(f) For T53-L-13B series engines with centrifugal compressor impellers having SN's 83317, 83327, 83328, or 83330, perform the following:

(1) Within 25 operating hours from the effective date of this AD, inspect the centrifugal compressor impeller for cracks using the revised cycle count (prorate) required by paragraph (b)(1) of this AD, in accordance with Accomplishment Instructions of AlliedSignal, Inc. SB No. T53-L-13B-0108, Revision 1, dated November 22, 1999.

(2) If cracks are detected, then prior to further flight, replace centrifugal compressor impellers found cracked in accordance with the Accomplishment Instructions of AlliedSignal, Inc. SB No. T53-L-13B-0108, Revision 1, dated November 22, 1999, and replace with a centrifugal compressor impeller P/N 1-100-078-13/-14.

(3) If no cracks are detected, perform repetitive inspections of the centrifugal compressor impellers at intervals not to exceed 100 operating hours since last inspection in accordance with the Accomplishment Instructions of AlliedSignal, Inc. SB No. T53-L-13B-0108, Revision 1, dated November 22, 1999.

(4) Within 300 operating hours or 6 calendar months, whichever occurs first, after the effective date of this AD, replace centrifugal compressor impellers having SN's 83317, 83327, 83328, or 83330, with a centrifugal compressor impeller P/N 1-100-078-13/-14. Replacement of centrifugal compressor impellers having SN's 83317, 83327, 83328, or 83330, with a centrifugal compressor impeller P/N 1-100-078-13/-14 constitutes terminating action for the inspection requirements of paragraphs (f)(1) and (f)(3) of this AD.

Inspection of Impellers on T53-L-13B/D Series Engines

(g) For T53-L-13B/D series engines with centrifugal compressor impellers having SN's 83317, 83327, 83328, or 83330, perform the following:

(1) Within 25 operating hours from the effective date of this AD, inspect the centrifugal compressor impeller for cracks using the revised cycle count (prorate) required by paragraph (b)(1) of this AD, in accordance with Accomplishment Instructions of AlliedSignal, Inc. SB No. T53-L-13B/D-0108, Revision 1, dated November 22, 1999.

(2) If cracks are detected, then prior to further flight, replace centrifugal compressor impellers found cracked in accordance with the Accomplishment Instructions of AlliedSignal, Inc. SB No. T53-L-13B/D-0108, Revision 1, dated November 22, 1999, and replace with a centrifugal compressor impeller P/N 1-100-078-13/-14.

(3) If no cracks are detected, perform repetitive inspections of the centrifugal compressor impellers at intervals not to exceed 100 operating hours since last inspection in accordance with the Accomplishment Instructions of AlliedSignal, Inc. SB No. T53-L-13B/D-0108, Revision 1, dated November 22, 1999.

(4) Within 300 operating hours or 6 calendar months, whichever occurs first, after the effective date of this AD, replace centrifugal compressor impellers having SN's 83317, 83327, 83328, or 83330, with a centrifugal compressor impeller P/N 1-100-078-13/-14. Replacement of centrifugal compressor impellers having SN's 83317, 83327, 83328, or 83330, with a centrifugal compressor impeller P/N 1-100-078-13/-14 constitutes terminating action for the inspection requirements of paragraphs (g)(1) and (g)(3) of this AD.

Inspection of Impellers on T53-L-703 Engines

(h) For T53-L-703 series engines with centrifugal compressor impellers having SN's 83317, 83327, 83328, or 83330, perform the following:

(1) Within 25 operating hours from the effective date of this AD, inspect the centrifugal compressor impeller for cracks using the revised cycle count (prorate) required by paragraph (b)(1) of this AD, in accordance with Accomplishment Instructions of AlliedSignal, Inc. SB No. T53-L-703-0108, Revision 1, dated November 22, 1999.

(2) If cracks are detected, then prior to further flight, replace centrifugal compressor impellers found cracked in accordance with the Accomplishment Instructions of AlliedSignal, Inc. SB No. T53-L-703-0108, Revision 1, dated November 22, 1999, and replace with a centrifugal compressor impeller part number (P/N) 1-100-078-13/-14.

(3) If no cracks are detected, perform repetitive inspections of the centrifugal compressor impellers at intervals not to exceed 100 operating hours since last inspection in accordance with the Accomplishment Instructions of AlliedSignal, Inc. SB No. T53-L-703-0108, Revision 1, dated November 22, 1999.

(4) Within 300 operating hours or 6 calendar months, whichever occurs first, after the effective date of this AD, replace centrifugal compressor impellers having SN's 83317, 83327, 83328, or 83330, with a centrifugal compressor impeller P/N 1-100-078-13/-14. Replacement of centrifugal compressor impellers having SN's 83317, 83327, 83328, or 83330, with a centrifugal compressor impeller P/N 1-100-078-13/-14 constitutes terminating action for the inspection requirements of paragraphs (h)(1) and (h)(3) of this AD.

Alternative Methods of Compliance

(i) An alternative method of compliance or adjustment of the compliance time that provides an acceptable level of safety may be used if approved by the Manager, Los Angeles Aircraft Certification Office (ACO). Operators must submit their requests through an appropriate FAA Principal Maintenance Inspector, who may add comments and then send it to the Manager, Los Angeles ACO.

Note 2: Information concerning the existence of approved alternative methods of compliance with this AD, if any, may be obtained from the Los Angeles ACO.

Special Flight Permits

(j) Special flight permits may be issued in accordance with §§21.197 and 21.199 of the Federal Aviation Regulations (14 CFR 21.197 and 21.199) to operate the helicopter to a location where the requirements of this AD can be done.

Documents That Have Been Incorporated by Reference

(k) The inspections must be done in accordance with the following SB's:

Document No.	Pages	Revision	Date
Honeywell International, Inc., SB T5313B/17-0020 Total pages 14	All	6	May 2, 2001.
Honeywell International, Inc., SB T53-L-13B-0020 Total pages 13	All	3	Oct. 25, 2001.
Honeywell International, Inc., SB T53-L-13B/D-0020 Total pages 12	All	1	April 25, 2001.
Honeywell International, Inc., SB T53-L-703-0020 Total pages 12	All	1	April 25, 2001.
Textron Lycoming SB, SB T5313B/17-0052 Total pages 8	All	2	Dec. 16, 1993.

AlliedSignal, Inc., SB T53-L-13B-0108	1	Original	July 22, 1999.
	2	1	Nov. 22, 1999.
Total pages 12	3-12	Original	July 22, 1999.
Allied Signal, Inc., SB T53-L-13B/D-0108	1	Original	July 22, 1999.
	2	1	Nov. 22, 1999.
Total pages 12	3-12	Original	July 22, 1999.
AlliedSignal, Inc., SB T53-L-703-0108	1	Original	July 22, 1999.
	2	1	Nov. 22, 1999.
Total pages 12	3-12	Original	July 22, 1999.

This incorporation by reference was approved by the Director of the Federal Register in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. Copies may be obtained from Honeywell International Inc. Aerospace Services Attn.: Data Distribution, M/S 64-3/2101-201, PO Box 29003, Phoenix, AZ 85038-9003; telephone (602) 365-2493, fax (602) 365-5577. Copies may be inspected, by appointment, at the FAA, New England Region, Office of the Regional Counsel, 12 New England Executive Park, Burlington, MA; or at the Office of the Federal Register, 800 North Capitol Street, NW, suite 700, Washington, DC.

Effective Date

(l) This amendment becomes effective on September 10, 2002.

Issued in Burlington, Massachusetts, on July 19, 2002.

Jay J. Pardee,

Manager, Engine and Propeller Directorate, Aircraft Certification Service.

[FR Doc. 02-19253 Filed 8-5-02; 8:45 am]

BILLING CODE 4910-13-P